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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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09/936,390

09/10/2001

Joar Vaage

1781

3776

24264

7590

11/30/2004

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EXAMINER

CHANG, AUDREY Y

ART UNIT

PAPER NUMBER

2872

DATE MAILED: 11/30/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/936,390

Applicant(s)

VAAGE, JOAR

Examiner

Audrey Y. Chang

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 13 September 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-11 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-11 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on **September 13, 2004** has been entered.

This Office Action is also in response to applicant's amendment filed on September 13, 2004, which has been entered into the file.

2. By this amendment, the applicant has amended claims 1-2 and has newly added claims 3-12.
3. Claims 1-12 remain pending in this application.

Claim Objections

4. **Claims 4 and 9 are objected to because of the following informalities:**

(1). The phrase "in its entirety" recited in claims 4 and 9 is confusing and indefinite since it is not clear if the phrase means in its entirety of *each* image, or the number of images being projected *together in entirety*.

Appropriate correction is required.

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 1-8 are rejected under 35 U.S.C. 103(a) as being unpatentable over the patent issued to Oba et al (PN. 5,959,663) in view of the patents issued to Izawa et al (PN. 5,626,703) and Shikama et al (PN. 5,982,538).

Oba et al teaches a *stereoscopic image generation and projection* method and apparatus, wherein the *an input video signal* (V_A), comprising picture signals intended for left eye and right eye is transferred to a *first and second projector* (23L and 23R, Figure 6), via a *first and second path*. The left eye picture signal and right eye picture signal are *processed* by *left eye processor* (22L) and *right eye processor* (22R) respectively which implicitly includes *decoding* the signal and *storing* the signal in *frame memory* (36L and 36R), that serves as the *first and second picture storage*. Oba et al teaches that the image data representing the input video signal is written in and its read-out address is specified corresponding to the *raster scan address* on the screen which then allows the *generation* of the left eye and right final transform images ($V5L$ and $V5R$) be transferred to the left eye and right eye projectors (23L and 23R) and be projected on the screen (24) at the *same time*, (please see Figures 6-7, column 14).

This reference has met all the limitations of the claims. However it does not teach explicitly that the input video signal is *alternating* cyclically between the left-eye picture and right-eye picture signals. However it is implicitly true that the left eye picture signal and right eye picture signal are *separately processed*, which with regard to claim 2, this implies a *page selector is included* to allow the left eye picture signals and right eye picture signals being transmitted via a first and second path to the left eye and right eye projectors. Furthermore it is very common in the art to input the video signals having left eye picture and right eye picture in an alternative manner, for one thing these signals are usually inputted by two video cameras with one used for taking left eye picture and the other one for taking right eye picture. Izawa et al in the same field endeavor teaches a *stereoscopic image display system* that is comprised of a *left/right image generator* (1, Figures 1, 24 and 25) for *alternatively* generating picture

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signals that are intended for right eye and left eye. The right eye pictures are the odd number image fields that are transmitted to a *right projection device* (50R, Figure 20) and the left eye pictures are the even number image fields that are transmitted to a *left projection device* (50L). **Izawa** et al teaches that a *changeover circuit* (2, Figure 25) can be used to *select* the left-eye or right-eye image signals, (please see column 1, lines 20-23). (Noted the image signals from the image generator are processed before it become final transform image for projection, Figure 3). It would then have been either implicitly true that the left eye picture signals and right eye picture signals are input *alternatively* or it would have been obvious to one skilled in the art to apply the teachings of **Izawa** et al to modify the system to do so for the benefit of allowing the left eye and right eye picture signals being input in an easy processing manner.

Oba et al teaches that the final transformation images (V5L and V5R) that are being transmitted to the projectors have a read out address that is corresponding to the **raster scan address** on the screen. This implies that periodically scanning is used to produce the image signals for projection. It is also very well known in the art to use scanning unit to scan the frame memory of the display device to generate the image. **Shikama** et al in the same field of endeavor *explicitly* teaches a light valve for an image projector has right image frame memory and left image frame memory for storing the right and left image field respectively wherein a *scanning unit* (40, Figure 3) is used to *periodically scan* the memory frames to generate the right and left image signals for projections. It would then have been obvious to one skilled in the art to apply the explicit teachings of **Shikama** et al to provide image memory frames for left eye image and right eye image respectively and scanning circuit for scanning the frame memory in order to produce the image signals for projection efficiently.

With regard to claims 4 and 9, Oba et al teaches that the left eye picture signal and right eye picture signal are projected in its entirety.

With regard to claims 5-6 and 10-11, Oba et al teaches that the left eye transform image and right eye transform image (V5L and V5R) are each generated by a first and second image processors (22L and

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22R) and the processors are coupled to the left eye and right eye projectors (23R and 23L) respectively. These references do not teach explicitly that if the scanning rate is different than the incoming rate of the picture signal however since these picture signals are processed first by the processor, the rate could be different from the incoming rate depending on the processing rate.

With regard to claim 12, it is implicitly true the decoder or the image processor is coupled between the page selector and the image projectors.

Response to Arguments

7. Applicant's arguments with respect to newly amended claims 1-2 and newly added claims 3-11 have been considered but are moot in view of the new ground(s) of rejection.

8. In response to applicant's arguments which state that the stereoscopic image projection-display system disclosed by Izawa et al reference is different from the type disclosed in the instant application, the examiner respectfully disagrees, since the cited Izawa et al reference teach to use a first and second projectors to project left eye and right eye image to a screen to provide stereoscopic image projection which is the same as recited in the claims of the instant application. Furthermore, Izawa et al does teach that the input image field from the left/right image signal generator (1) is first processed by the image processor (Figure 3) and to form final left eye and right eye image that are transmitted to a *right projection device* (50R, Figure 20) and the left eye pictures are the even number image fields that are transmitted to a *left projection device* (50L) being projected to the screen to form the stereoscopic image projection. This is the same as the image projection method of the instant application.

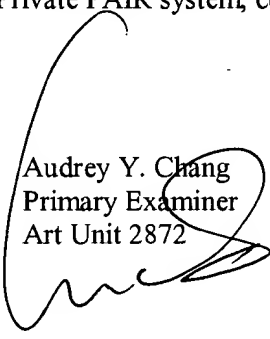
Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Audrey Y. Chang whose telephone number is 571-272-2309. The examiner can normally be reached on Monday-Friday (8:00-4:30), alternative Mondays off.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Drew Dunn can be reached on 571-272-2312. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Audrey Y. Chang
Primary Examiner
Art Unit 2872

A. Chang, Ph.D.